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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,075	07/24/2003	David M. Livingston	20363-019	3113

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EXAMINER	
BERTOGLIO, VALARIE E	
ART UNIT	**PAPER NUMBER**
1632	

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/627,075	LIVINGSTON ET AL.	
	Examiner	Art Unit	
	Valarie Bertoglio	1632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-49* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-10, drawn to a polynucleotide comprising a light-generating gene and a nucleic acid encoding a selectable marker, classified in class 536, subclass 23.1.

II. Claims 11-17,34 and 35, drawn to a cell comprising a polynucleotide comprising a light-generating gene and a nucleic acid encoding a selectable marker , classified in class 435, subclass 325.

III. Claims 18,19,30-33,36-40, drawn to a transgenic non-human mammal comprising a polynucleotide comprising a light-generating gene and a nucleic acid encoding a selectable marker, classified in class 800, subclass 8.

IV. Claims 21 and 23-26, drawn to a method of imaging cells in vitro, classified in class 435, subclass 7.21.

V. Claims 22-26, drawn to a method of imaging cells in vivo, classified in class 424;800, subclass 9.1;3.

VI. Claims 27-29 41-48, drawn to using animal to identify agents by measuring light emission, classified in class 424;800, subclass 9.2;3.

VII. Claim 49, drawn to an ES cell derived from the albino mouse strain C57Bl/6-$Tyr^{c/c}$, classified in class 435, subclass 354.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are patentably distinct because, the polynucleotide can be used as a probe while the cells can be used in in vitro assays for modulators of gene expression. The protocols and reagents required for the cells and the polynucleotide are materially distinct and

separate. The polynucleotide does not require the cells. The polynucleotide and the cells are classified differently . It would require an undue burden to search Inventions I and II together.

Inventions I and III are patentably distinct because, the polynucleotide can be used as a probe or to make recombinant cells in vitro while the transgenic non-human mammals can be used in in vivo assays to visualize gene expression. The protocols and reagents required for the mammals and the polynucleotide are materially distinct and separate. The polynucleotide does not require the mammals. The polynucleotide and the mammals are classified differently . It would require an undue burden to search Inventions I and III together.

Inventions I and Inventions IV and V are patentably distinct because, the polynucleotide can be used as a probe while the methods can be used to visualize cells. The protocols and reagents required for the polynucleotide and the methods are materially distinct and separate. The polynucleotide does not require the imaging methods. The polynucleotide and the methods are classified differently . It would require an undue burden to search Invention I together with either of Inventions IV or V.

Inventions I and VI are patentably distinct because, the polynucleotide can be used as a probe while the methods can be used to screen for agents in vivo. The protocols and reagents required for the polynucleotide and the methods are materially distinct and separate. The polynucleotide does not require the in vivo screening methods. The polynucleotide and the methods are classified differently . It would require an undue burden to search Invention I together with Invention VI.

Inventions I and VII are patentably distinct because, the polynucleotide can be used as a probe while the ES cell can be used to make a mouse. The protocols and reagents required for

the polynucleotide and the ES cell are materially distinct and separate. The polynucleotide does not require the ES cell and the ES cell does not require the polynucleotide. The polynucleotide and the ES cell are classified differently . It would require an undue burden to search Invention I together with Invention VII.

Inventions II and III are patentably distinct because, the cell can be used in in vitro screening assays while the transgenic non-human mammals can be used in in vivo assays to visualize tissue-specific gene expression. The protocols and reagents required for the mammals and the cells are materially distinct and separate. The cells do not require the mammals. The cells and the mammals are classified differently. It would require an undue burden to search Inventions II and III together.

Inventions II and IV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the process can be used to visualize cells in vivo and the cells can be used to screen for modulators of gene expression.

Inventions II and V are patentably distinct because, the cells can be used to screen for modulators of gene expression in vitro while the methods can be used to visualize cells in vivo. The protocols and reagents required for the cells and the in vivo methods are materially distinct and separate. The in vivo methods do not require the cells in vitro and vice versa. The cells and the methods are classified differently . It would require an undue burden to search Invention II together with Invention V.

Inventions II and VI are patentably distinct because, the cells can be used in in vitro cell imaging studies while the methods can be used to screen for modulators of gene expression in vivo. The protocols and reagents required for the cells and the in vivo methods are materially distinct and separate. The in vivo methods do not require the cells in vitro and vice versa. The cells and the methods are classified differently . It would require an undue burden to search Invention II together with Invention VI.

Inventions II and VII are patentably distinct because, the recombinant cells can be used to image cells in vitro while the albino ES cell of Invention VII can be used to make a mouse. The protocols and reagents required for the recombinant cells and the ES cell are materially distinct and separate. The recombinant cells do not require the ES cell and the ES cell does not require the recombinant cells. It would require an undue burden to search Invention II together with Invention VII.

Inventions III and IV are patentably distinct because, the transgenic non-human mammals can be used to screen for modulators of gene expression in vivo while the methods can be used to visualize cells in vitro. The protocols and reagents required for the transgenic non-human mammal and the in vitro methods are materially distinct and separate. The in vitro methods do not require the mammals and vice versa. The mammals and the in vitro methods are classified differently . It would require an undue burden to search Invention III together with Invention IV.

Inventions III and V are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP

§ 806.05(h)). In the instant case the process of Invention V can be used to image cells in vivo and the mammals of Invention III can be used to screen for modulators of in vivo gene expression.

Inventions III and VI are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the process of Invention VI can be used to screen for agents in vivo and the mammals of Invention III can be used to image cells.

Inventions III and VII are patentably distinct because, the transgenic non-human mammal can be used to image cells in vivo while the albino ES cell of Invention VII can be used to make any transgenic mouse. The protocols and reagents required for the transgenic non-human mammal and the ES cell are materially distinct and separate. The transgenic non-human mammal does not require the claimed ES cell and the ES cell does not require the transgenic non-human mammal. It would require an undue burden to search Invention III together with Invention VII.

The methods of each of Inventions IV and V are materially different and plurally independent from each other because each is practiced with materially different process steps and technical considerations and requires materially distinct protocols and reagents. The methods of Invention IV require recombinant cells in vitro. The methods of Invention V require transgenic mammals, in vivo. The methods required for imaging cells in vitro and in vivo are distinct. It would require an undue burden to search Invention IV together with Invention V.

The methods of each of Inventions IV and VI are materially different and plurally independent from each other because each is practiced with materially different process steps and technical considerations and requires materially distinct protocols and reagents. The methods of Invention IV require recombinant cells in vitro. The methods of Invention VI require transgenic mammals, in vivo. The method steps required for imaging cells in vitro differ from the methods steps used to screen using transgenic mammals in vivo. The methods are classified differently. It would require an undue burden to search Invention IV together with Invention VI.

Inventions IV and VII are patentably distinct because, the method of Invention IV uses recombinant cells in vitro that do not require the albino ES cells of Invention VII. The albino ES cell of Invention VII can be used to make any transgenic mouse and can be used in methods other than that of Invention IV. The protocols and reagents required for the methods of using recombinant cells and the ES cell are materially distinct and separate. The method of imaging cells does not require the claimed ES cell and the ES cell does not require the method. It would require an undue burden to search Invention IV together with Invention VII.

Invention V and VI are patentably distinct because, the methods of Invention V can be used to image cells while the methods of Invention VI can be used to screen for modulators of various processes or gene expression. The protocols and reagents required for each method are materially distinct and separate. The method of imaging cells can be applied to methods other than screening agents, including visualizing cells in mutant animals. It would require an undue burden to search the method of imaging of Invention V together with the method of screening of Invention VI.

Inventions V and VI are each patentably distinct from Invention VII because, the method of each of Inventions V and VI uses transgenic non-human mammals in vivo that do not require the albino ES cells of Invention VII. The albino ES cell of Invention VII can be used to make any transgenic mouse and can be used in methods other than those of Inventions V and VI. The protocols and reagents required for the methods of using transgenic non-human mammals and the ES cell are materially distinct and separate. The methods of using a transgenic non-human mammal do not require the claimed ES cell and the ES cell does not require the methods. It would require an undue burden to search Invention V or VI together with Invention VII.

This application contains claims directed to the following patentably distinct species of the claimed invention:

a) Ang-2

b) Flk1

c) FLT3

d) AP-2

e) Her-2/Neu

f) c-myc

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 30 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable

thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Claim 20 link(s) inventions IV and V. The restriction requirement to the linked inventions is subject to the nonallowance of the linking claim(s), claim 20. Upon the allowance of the linking claim(s), the restriction requirement as to the linked inventions shall be withdrawn and any claim(s) depending from or otherwise including all the limitations of the allowable linking claim(s) will be entitled to examination in the instant application. Applicant(s) are advised that if any such claim(s) depending from or including all the limitations of the allowable linking claim(s) is/are presented in a continuation or divisional application, the claims of the continuation or divisional application may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction

requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of In re Ochiai, In re

Brouwer and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Valarie Bertoglio whose telephone number is (571) 272-0725. The examiner can normally be reached on Mon-Thurs 5:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Valarie Bertoglio
Examiner
Art Unit 1632